

CHAPTER 6

SURVEILLANCE, MONITORING AND ASSESSMENT

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6. SURVEILLANCE, MONITORING AND ASSESSMENT

INTRODUCTION



Laboratory

California's well-being is linked to the health of its water. To protect and preserve this basic resource, the State Board and the Regional Board closely monitor water quality throughout the state.

A comprehensive surveillance and monitoring program provides basic information needed to evaluate the effectiveness of California's water quality control program.

Historically, a wide variety of interested state, federal, and local agencies have sampled, analyzed, and tracked water quality. The State Board monitoring program coordinates existing information, and supplements it where necessary to meet data needs.

The Porter-Cologne Water Quality Control Act delegates primary responsibility for coordination and control of water quality in California to the State Board. Section 13163 of the Act states that in conducting this mission, the State Board shall coordinate water quality investigations, recognizing that other state agencies may have primary statutory responsibility for such investigations, and shall consult with the concerned Regional Boards in implementing this section.

Pursuant to these mandates, the State Board in 1976 established a coordinated Primary Water Quality Monitoring Network for California. Participants in the coordinated Primary Network included the California Departments of Fish and Game (DFG), Water Resources (DWR), and Health Services (DHS) as well as the Federal Bureau of Reclamation, United States Geologic Survey (USGS), and the United States Environmental Protection Agency (USEPA).

The goal of the Primary Network has been to provide an overall, continuous assessment of water quality in the State. This goal is to be achieved by statewide monitoring of water quality

parameters that can affect beneficial uses of state waters.

This chapter contains a discussion of the objectives and various elements of the State and Regional Board's surveillance and monitoring programs. Not all of these programs are currently active in the San Diego Region, as many are unfunded at this time.

STATE SURVEILLANCE AND MONITORING PROGRAMS

The State's surveillance and monitoring programs are designed to assure the collection of data necessary to:

- Establish and review water quality standards, goals, and objectives;
- Determine maximum daily loadings, waste load allocations, and effluent limitations;
- Perform segment classifications and ranking; and
- Establish the relationship between water quality and individual point and nonpoint sources of pollutants.

These data must be verified and properly interpreted to evaluate water quality trends and to make the necessary changes in the enforcement and/or planning programs to carry out program objectives. Output based upon data obtained from this program is used to prepare reports satisfying the requirements of federal Clean Water Act, sections 104, 106, 208, 301, 303, 304, 305, 307, 308, 314, 402, and the applicable portions of the State's Porter-Cologne Water Quality Control Act.

The overall objectives of the State's surveillance and monitoring program are:

- To measure the achievement of water quality goals and objectives specified in the Basin Plan;
- To measure specific effects of water quality changes on the established beneficial uses;

- To measure background conditions of water quality and determine long-term trends in water quality;
- To locate and identify sources of water pollution that pose an acute, accumulative, and/or chronic threat to the environment;
- To provide information needed to relate receiving water quality to mass emissions of pollutants by waste dischargers;
- To provide data for determining compliance with permit conditions;
- To provide the documentation necessary to support the enforcement of permit conditions and waste discharge requirements;
- To measure waste loads discharged to receiving waters and to identify the limits of their effects, and in water quality limited segments, to prepare waste load allocations necessary to achieve water quality control;
- To provide data needed to carry on the continuing planning process;
- To provide a clearinghouse for the collection and dissemination of water quality data gathered by other agencies and private parties cooperating in the program;
- To measure the effects of water rights decisions on water quality and to guide the State Board in its responsibility to regulate unappropriated water for the control of quality; and
- To prepare reports on water quality conditions as required by federal and state regulations and other users requesting water quality data.

The surveillance and monitoring program is designed to meet the objectives set forth above. An optimum surveillance and monitoring program requires flexibility and must be able to respond to needs specified in the Basin Plan as it is implemented and revised. To ensure that the surveillance and monitoring program is flexible and adapts to change, statewide water quality assessments are performed every two years to provide a timely cycle to evaluate the program's effectiveness and make appropriate changes.

The surveillance and monitoring program provides for collection and analysis of samples and the reporting of water quality data. It includes laboratory support and quality assurance, storage of data for rapid and systematic retrieval, and preparation of reports and data summaries. Most importantly, it includes interpretation and evaluation of data leading to recommendations for action.

Surveillance and monitoring at the State level is made up of three programs. These are the Toxic Substance Monitoring, State Mussel Watch and Bay Protection and Toxic Cleanup Programs.



San Mateo Creek steelhead trout

TOXIC SUBSTANCE MONITORING PROGRAM

One method of monitoring for toxic substances (toxic elements and organic compounds) is to collect and analyze water samples. A major problem with this approach is that toxic discharges are likely to occur in an intermittent fashion and thus are likely to be missed with "grab" sampling of the water. Another limitation to analyzing water samples is that generally, harmful toxicants are present in low concentrations in the water. Toxicants are concentrated through the aquatic food chain through the process of bioaccumulation. Thus, in the Toxic Substances Monitoring Program, the flesh of fish and other aquatic organisms is analyzed for toxic metals and synthetic organic compounds.

Streams and lakes in the region are sampled according to their importance to the State in terms of water quality. Priority is given to waters where contaminants are suspected and/or to waters where no other source of water quality information is available. Routine chemical and biological water monitoring is performed by the DWR and/or USGS; and toxic substances monitoring of resident organisms is performed by the DFG.

The objectives of the Toxic Substance Monitoring program are:

- To develop statewide baseline data and to demonstrate trends in the occurrence of toxic elements and organic substances in the aquatic biota;
- To assess impacts of accumulated toxicant upon the usability of State waters by man;
- To assess impacts of accumulated toxicant upon the aquatic biota; and
- Where problem concentrations of toxicant are detected, to attempt to identify sources of toxicant and to relate concentrations found in the biota to concentrations found in the water.

The samples collected in the Toxic Substance Monitoring program are benthic invertebrates and fish. The flesh of bivalve mollusks or crayfish tailflesh and fish livers are analyzed for important metals, including arsenic, cadmium, chromium, copper, lead, nickel, silver, and zinc; fish flesh is analyzed for mercury. In addition, both invertebrate and fish flesh samples are analyzed for 55 synthetic organic compounds, most of which are pesticides. Toxic Substance Monitoring reports have been published annually since 1977.

STATE MUSSEL WATCH PROGRAM

The State Mussel Watch (Mussel Watch) program provides documentation of the quality of coastal marine and estuarine waters. The Mussel Watch program fulfills the goal of providing the state with long-term trends in the quality of these waters. Mussels were chosen as the indicator organism for trace metals and synthetic organic compounds in the coastal and estuarine waters. Although the mussel populations of bays and estuaries are of a different species than those found in the open coast; their suitability as sentinels for monitoring the presence of toxic pollutants stems from several factors including: (1) their ubiquity along the California coast; (2) their ability to concentrate pollutants above ambient sea water levels and to provide a time-averaged sample; and (3) their non-motile nature which permits a localized measurement of water quality. The trace metals analyzed for in mussel tissues include aluminum, cadmium, chromium, copper, lead, manganese, mercury, nickel, silver, and zinc. Synthetic organic compounds analyzed for are summarized in Table 6-1.

TABLE 6 - 1. SYNTHETIC ORGANIC COMPOUNDS ANALYZED IN THE STATE MUSSEL WATCH AND TOXIC SUBSTANCES MONITORING PROGRAMS

Aldrin	P, P'- DDE	Endosulfan ²	Methyl Parathion
Chlorbendide	O, P'- DDE	Endosulfan Sulfate	Oxadiazon ²
alpha Chlordane	P, P'- DDD	Total Endosulfan	PCB 1248
gamma Chlordane	O, P'- DDD	Ethyl Parathion	PCB 1254
cis Chlordane	P, P'- DDMS	Heptachlor	PCB 1260
trans Chlordane	P, P'- DDMU	Heptachlor Epoxide	Total PCB
Oxychlordane	O, P'- DDT	Heptachlorobenzene	Pentachlorophenol ¹
Total Chlordane	P, P'- DDT	alpha Lindane	Phenol ¹
cis Nonachlor	Total DDT	beta Lindane	Ronnel ¹
trans Nonachlor	Diazinon	gamma Lindane	Tetrachlorophenol ¹
Chlorpyrifos	Dieldrin	delta Lindane	Tetradifon ¹
Dacthal	Endrin	Total Lindane ²	Toxaphene
Dicofol ²	Endosulfan ¹	Methoxychlor	Tributyltin ¹

¹ These constituents only sampled in the State Mussel Watch Program.

² These constituents only sampled in the Toxic Substances Monitoring Program.

When compared with alternative sampling designs such as seawater and sediment sampling, the Mussel Watch program is a more cost effective program. Mussel Watch reports have been published annually since 1978.

During the 1977 and 1978 sampling periods, the focus of the Mussel Watch program was, for the most part, on open coast monitoring of sites outside the vicinity of known pollutant sources. Monitoring of water quality in the State Board's designated Areas of Special Biological Significance (ASBS), to establish baseline conditions relating to the range of typical conditions in water, sediment and biota, was given prime importance in the early years of the program.

Based on the identification of "*hot spot*" areas during 1977 and 1978, intensive sampling of these areas was implemented in 1979. Such a sampling strategy was intended to confirm previous findings, establish the magnitude of the potential problem and identify pollutant sources. The program has since evolved to include transplanting *Mytilus californianus* mussels into select California bays and estuaries at selected sites to confirm potential toxic substance pollution (i.e., in the vicinity of dischargers).



San Diego Bay

BAY PROTECTION AND TOXIC CLEANUP PROGRAM

California Water Code, Division 7, Chapter 5.6 established a comprehensive program within the State Board to protect the existing and future beneficial uses of California's bays and estuaries. The Bay Protection and Toxic Cleanup Program (BPTCP) provides focus on the State Board and regional boards efforts to control pollution of the State's bays and estuaries. The BPTCP also establishes a program to identify toxic hot spots and plan for their cleanup. Chapter 5.6, sections 13390 through 13396.5 were added to Division 7 of the California Water Code by SB 475 (Stats. 1989, Chapter 269), SB 1845 (Stats. 1990, Chapter 1294), and AB 41 (Stats. 1989, Chapter 1032). New legislation (SB 1084 Calderon; Stats. 1993, Chapter 1157) extends program funding through 1998. The BPTCP is a statewide program which is

coordinated with the DFG and California Environmental Protection Agency's (Cal-EPA's) Office of Environmental Health Hazard Assessment. The program was established: (1) to provide protection for existing and future beneficial uses of bay and estuarine waters; (2) to provide a plan for remedial action at toxic hot spots; (3) to further compliance with federal law pertaining to the identification of waters where the protection and propagation of shellfish, fish, and wildlife are threatened by toxic pollutants and contribute to the development of effective strategies to control these pollutants; and (4) to allow these programs to be structured and maintained in a manner which allows the State and Regional Boards to make maximum use of any federal funds which may be available for the program. To attain the goals of the program, the State and Regional Boards are required to do the following:

- Develop and maintain a program to identify toxic hot spots, plan for their cleanup or mitigation, and amend water quality control plans and policies to abate toxic hot spots;
- Formulate and adopt a water quality control plan for enclosed bays and estuaries;
- Review and, if necessary, revise waste discharge requirements to conform to the plan;
- Develop a database of toxic hot spots;
- Develop an ongoing monitoring and surveillance program;
- Develop sediment quality objectives;
- Develop criteria for the assessment and priority ranking of toxic hot spots; and
- Fund the program through fees on point and nonpoint dischargers (Title 17 California Code of Regulations section 2236).

Program accomplishments include:

- Adoption of an approach for establishing sediment quality objectives;
- Installation of a computer system for a consolidated database of information being collected to identify toxic hot spots;

- Implementation of regional monitoring program;
- Development of draft site ranking criteria to be used for priority ranking of toxic hot spots; and
- Implementation of a fee system supporting the program.

The development of regional and statewide cleanup plans is ongoing. For the period July, 1992 through June, 1994 there are two main sediment sampling and analysis efforts for the BPTCP. The first includes toxicity screening where the primary goal is to determine bioassay protocols, establish reference sites and a consolidated database. The second is measurement of the bioeffects associated with toxicants. This includes a survey of sediment contamination and toxicity; two independent toxicity tests including ten-day solid phase amphipod survival, and pore-water test of sea urchin egg fertilization; chemical analyses of sediment samples including trace metals, pesticides, hydrocarbons, tributyltin, acid volatile sulfides and selected normalizers (such as grain size and total organics). Surveillance and monitoring sites in this region are located in the Pacific Ocean, Tijuana River, San Diego Bay, and Mission Bay.

In addition, the San Diego Region BPTCP includes an Underwater Hull Cleaning (UHC) study and a water circulation study for San Diego Bay. The components of the UHC study includes surveys, water sampling and recommendations. The results of the UHC study should assist the Regional Board to determine appropriate regulations for underwater hull cleaners.

REGIONAL SURVEILLANCE AND MONITORING PROGRAMS

The Regional Board participates in the implementation of the following surveillance and monitoring programs:

- Compliance Inspections and Monitoring;
- Complaint Investigation;

- Intensive Surveys;
- Municipal Storm Water Monitoring;
- Water Quality Assessment Activities; and
- Quality Assurance and Quality Control.

COMPLIANCE INSPECTIONS AND MONITORING

The Regional Board ensures compliance with the Water Quality Control Plan, NPDES permits and WDRs through implementation of a comprehensive self monitoring program and compliance inspection program.

COMPLIANCE MONITORING

Compliance monitoring provides data which is used to determine compliance with discharge requirements and receiving water standards and to support enforcement actions. Data are collected from self monitoring reports generated by waste dischargers.

Self monitoring reports submitted to the Regional Board are reviewed, and if violations are noted, appropriate action is taken, ranging from administrative enforcement to judicial abatement depending on the circumstances. Self monitoring data have also been used to develop pollutant loadings and to indicate the general improvement noted in the receiving water.

Self monitoring report requirements are dependent on the type and quantity of effluent discharged. For example, the City of San Diego, Water Utilities Department, conducts an Ocean Monitoring Program as part of the environmental monitoring requirements for the Point Loma Sewage Outfall. The program includes chemical and biological testing of ocean waters, sediments, fish, and benthic infauna. Most of the monitoring stations are in close vicinity to the Point Loma Sewage Outfall; however, stations range geographically from the shoreline to six miles offshore and from La Jolla to the Mexican border.

COMPLIANCE INSPECTIONS

Regional Board staff periodically conducts inspections of all dischargers regulated under an NPDES permit or waste discharge requirements. Treatment, storage, and discharge facilities are inspected to determine compliance with the permit. Compliance inspection reports are written

based on staff inspections of a particular site and include observations made by staff and/or results of analyses performed on samples collected by staff. During the inspections facts and information are gathered to assess the degree of compliance with the following NPDES permit or WDR provisions:

- Effluent and receiving water limitations;
- Self-monitoring reports;
- Record keeping and reporting;
- Compliance time schedules, if applicable;
- Best management plans, if applicable; and
- Other conditions, provisions and prohibitions.

During some inspections, samples are collected to further determine compliance. Inspections can be either announced or unannounced. Announced inspections facilitate direct communication with the discharger to review procedures and operations. Unannounced inspections have the advantage that staff can witness normal day-to-day operations without giving the discharger the opportunity to prepare for the visit. Upon discovery of a noncompliance the procedures discussed in the enforcement section of Chapter 4 are followed to gain correction.

COMPLAINT INVESTIGATIONS

This task involves investigation of complaints of citizens and public or governmental agencies on the discharge of pollutants or creation of nuisance conditions. It is a Regional Board responsibility to prepare reports or letters and follow-up actions to document observed conditions and to institute appropriate corrective actions. In instances where the Regional Board cannot respond to a complaint because of resource limitations, the Regional Board notifies other agencies if it falls within their jurisdiction.

The Regional Board strives to ensure that responses to complaints involving threats to water quality be made in an expedient manner, as resources allow. For the purpose of this policy, response includes the following three components: (1) Thorough documentation of complaints; (2) Appropriate follow-up including site inspections, referral to, or notification of, other regulatory agencies, corrective actions, enforcement actions, etc.; and (3) Notification to complainant, as appropriate, of findings and subsequent actions.

DEFINITION OF ACTIVITIES

Complaint activities include all activities necessary to respond to a complaint or incident including the following: (1) Receiving and documenting complaints/incidents (e.g., spills); (2) Any follow-up activities to gather additional information (e.g., research, telephone contacts, coordination with other agencies, etc.); (3) Preparation for any field inspections necessary to investigate a complaint/incident; (4) Field inspections, including travel; (5) Sampling of spill and/or receiving waters for documentation, if appropriate; and (6) Documenting findings and responding to complainant.

NOTIFICATION TO OTHER AGENCIES

The Regional Board notifies other responsible regulatory agencies (e.g., Public Health, DHS, DFG, Department of Food and Agriculture, Integrated Solid Waste Management Board) of the content of a complaint if it falls within said agency's jurisdiction.

Except for a discharge in compliance with waste discharge requirements, any person who causes or permits any reportable quantity of hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is or probably will be discharged in or on any waters of the State, shall, as soon as possible, notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan. The person shall also immediately notify the State Board or appropriate Regional Board of the discharge (Water Code section 13271).

Similarly, any person who discharges any oil or petroleum product under the above-stated conditions shall, as soon as possible, notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan. Immediate notification of an appropriate agency of the federal government, or of the appropriate Regional Board (in accordance with the reporting requirements set under Water Code section 13267 or 13383) shall satisfy the oil spill notification requirements of this paragraph (Water Code section 13272).

REPORTABLE QUANTITIES OF HAZARDOUS WASTE AND SEWAGE DISCHARGES

Water Code section 13271 requires that the State Board and the DHS adopt regulations establishing reportable quantities for substances listed as hazardous wastes or hazardous materials pursuant to section 25140 of the Health and Safety Code. Reportable quantities are those which should be reported because they may pose a risk to public health or the environment if discharged to ground or surface water.

Similarly, the State Board was required to adopt regulations establishing reportable quantities for sewage. These regulations for sewage and hazardous materials discharge do not supercede waste discharge requirements or water quality objectives.

The State Board adopted regulations for reportable quantities are included in subchapter 9.2 of the California Code of Regulations.

INSPECTION IN RESPONSE TO COMPLAINTS

The Regional or State Board may inspect the facilities of any discharger at any time pursuant to Water Code, section 13267. Such inspections should normally be conducted with consent of the occupant and/or owner of the facilities. If an inspection request is refused by any occupant of the premises, an effort to gain access should be made with the owner of the premises. The Clean Water Act and California Water Code provide that a credentialed inspector must be allowed entry to the facilities subject to regulation under these laws. Regional Board staff do not inspect sites which pose a threat to their health or safety. For sites which could involve toxic and hazardous materials field work, a Health Evaluation Plan (HEP) is completed.

If all attempts to obtain consent fail, the inspection may be made pursuant to a warrant in accordance with the procedure set forth in Title 13, section 13267(c). In all cases where an inspection warrant is required, staff of the State Board's Office of Chief Counsel is consulted relative to procedures.

An inspection is permitted without consent and without a warrant when there is an emergency which affects the public health or safety. Advice from the State Board's Office of Chief Counsel is sought before making such an inspection.

When an inspection is done in response to a complaint, and the inspector may be entering an "unknown" situation, every safety precaution is taken. Again, in no instance does staff make an inspection of a site which may pose a threat to their health and safety. Thorough notes and documentation are made during the inspection, including photographs, if appropriate. After an inspection is completed, an inspection report is prepared describing what was found.

FINDINGS OF NONCOMPLIANCE

If during the course of a complaint investigation, a noncompliance is discovered, procedures as outlined in the enforcement section of Chapter 4 (Implementation chapter) are followed.

INTENSIVE SURVEYS

Intensive monitoring surveys provide detailed water quality data to locate and evaluate violations of receiving water standards, to develop waste load allocations and to assess the water quality condition.

They usually involve localized, intermittent sampling at a higher than normal frequency. Intensive surveys should be repeated at appropriate intervals depending on the parameters involved, the variability of conditions, and changes in hydrologic or effluent regimes.



MUNICIPAL STORM WATER MONITORING

The storm water permitting program has been established to protect water quality of the water bodies which receive storm water runoff. (For a complete description of this program, refer to Chapter 4, Implementation chapter). Sampling of storm water runoff has indicated that storm water discharges contain significant amounts of pollutants. Therefore, the Region's municipal storm water permits requires the permittee to develop comprehensive management and monitoring programs. Because each permit generally covers a large number of water bodies, the required monitoring program is in two phases.

Phase I requires the discharger to sample storm water discharges and to sample those receiving waters where the beneficial uses are threatened or impaired due to runoff of storm water and urban nuisance water. Phase I requires both a dry and wet weather monitoring program. San Diego copermittees are required to sample two major types of runoff stations: (1) mass loading; and (2) land use stations. The dry weather monitoring program requires periodic colorimetric field tests and visual inspections of the storm water conveyance system to detect non-storm water flows. Under Phase II the dischargers will be required to develop storm water management and monitoring programs for the remaining water bodies included under the permit.

Storm water discharges from urbanized areas consist mainly of surface runoff emanating from residential, commercial, and industrial areas. In addition, there are storm water discharges from agricultural and other land uses. The constituents of concern in these discharges include: total and fecal coliform, *enterococcus*, total suspended solids, biochemical oxygen demand, chemical oxygen demand, total organic carbon, oil and grease, heavy metals, nutrients, base/neutral and acid extractables, pesticides, herbicides, petroleum hydrocarbon products, and/or those causing extremely high or low pH.

The objectives of the storm water monitoring program are to: (1) define the type, magnitude, and sources of pollutants in the storm water discharges within the permittee's jurisdiction so that appropriate pollution prevention and correction measures can be identified; (2) evaluate the effectiveness of pollution prevention and correction measures; and (3) evaluate compliance with water quality objectives established for the storm water system or its components.



Sampling biota

BIENNIAL WATER QUALITY INVENTORY / WATER QUALITY ASSESSMENT REPORT

Section 305(b) of the federal Clean Water Act requires all states to prepare and submit a biennial Water Quality Inventory Report, (commonly referred to as a "*305(b) Report*"). In California, this report is used by the State Board

and the USEPA to prioritize funding for water quality programs. As required by the Clean Water Act, section 305(b), the report must contain:

- A description of the water quality of the major navigable water bodies in the state;
- An analysis of the extent to which significant navigable waters provide for the protection and propagation of a balanced population of shellfish, fish, and wildlife and allow recreational activities in and on the water;
- An analysis of the extent to which elimination of the discharge of pollutants has been achieved;
- An estimate of the environmental impact, the economic, and social costs necessary to achieve the objective of the Clean Water Act, the economic and social benefits of the achievement, and the date of such achievement; and
- A description of the nature and the extent of nonpoint sources of pollutants and recommendations as to the programs which must be taken to control them, with estimates of cost.



San Mateo Creek

Each Regional Board prepares a biennial Water Quality Assessment (WQA) Report for its Region, using data collected by regional planning, permitting, surveillance, and enforcement programs. The regional reports contain inventories of the major water bodies in the region, including rivers and streams, lakes and reservoirs, bays and harbors, estuaries, coastal waters, wetlands, and ground water. For each water body, the report identifies the total size and the extent of the water body classified as having "*good*", "*intermediate*", "*impaired*", or "*unknown*" water quality. The report describes general problems and sources of water quality impairment. Additionally, the data base also indicates if the water body is included on any of the federal "*lists*". These lists indicate specific types of water quality impairments and are organized by

the appropriate sections of the Clean Water Act as follows:

Section 131.11: Segments which may be affected by toxic pollutants, or segments with concentrations of toxic pollutants that warrant concern.

Section 303(d): List of Water Quality Limited Segments where objectives or goals of the Clean Water Act are not attainable with the Best Available Treatment/ Best Control Technology (BAT/BCT).

Section 304(m): So-called "*mini-list*" of waters not meeting State adopted numeric water quality objectives due to toxic point sources after implementation of BAT/BCT.

Section 304(s): So-called "*short list*" of waters not achieving water quality standards due to point source discharges of toxic pollutants after implementation of BAT/BCT.

Section 304(l): So-called "*long list*" of waters not meeting the water quality goals of the Clean Water Act after implementation of BAT/BCT.

Section 314: A list of lake priorities for restoration.

Section 319: A list of impaired surface water bodies from nonpoint source problems due to both toxic and nontoxic pollutants.

Upon adoption of the Regional WQA Reports by respective Regional Boards, the reports are compiled into a statewide report entitled California Water Quality Assessment Report. Upon adoption of this statewide report by the State Board, the report is submitted to the USEPA to satisfy section 305(b) reporting requirements of the Clean Water Act.

CLEAN WATER STRATEGY

The Clean Water Strategy (CWS) is a process that the State Board implemented to assure that staff and fiscal resources are directed at the highest priority water quality issues throughout California. The primary objective of the CWS is to more effectively define and respond to priorities as revealed by the best available water quality information.

The CWS relies on the Water Quality Assessment condition ratings to provide the technical information necessary to identify water bodies needing protection or prevention actions, additional assessment, or cleanup activities. In addition to the Water Quality Assessment, the regions determined the relative resource value of their water bodies to recognize the relative importance of individual waters when compared to each other. The regions developed priority water body lists which are based upon the severity of their water quality problems or needs and relative resource values, from which the State Board assembled a statewide priority list based upon the same criteria.

There are six phases involved in implementing the Clean Water Strategy. As of this date, phase 1 and 2 have been completed. The State Board has begun a pilot study to determine the feasibility of phases 3 through 6.

Phase 1: Obtain the best information;

Phase 2: Compare and prioritize water body concerns;

Phase 3: Prioritize actions to address concerns;

Phase 4: Allocate new resources;

Phase 5: Implement strategy goals; and

Phase 6: Review results.



QUALITY ASSURANCE AND QUALITY CONTROL

The statewide Quality Assurance (QA) program was developed to ensure that data generated from environmental studies are technically sound, scientifically valid, and legally defensible. A federal regulation (USEPA Order 5360.1) requiring the State to develop and implement a Quality Assurance Program Plan (QAPP) was adopted in April 1993. The program mandate is identified in 40 CFR 30.503 (July 1, 1987).

The State Board has appointed a QA Program manager to direct, coordinate, and administer the State QAPP. Independently, each Regional Board has appointed a QA officer to administer its Regional responsibilities. The State and Regional Boards jointly administer the program, however the State Board has lead responsibility for managing the overall program and reporting to the USEPA. The duties of the Regional Board QA officer include overseeing and implementing QA procedures conducted in the Regional Board laboratory, interacting with project managers

on the required preparation of QA Project Plans, and evaluating compliance inspection data on all major dischargers.

OTHER MONITORING PROGRAMS

In addition to the State's surveillance and monitoring program, several other agencies monitor water quality, complementing the State's efforts. These agencies are usually local health departments or water supply agencies.



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